AMENDMENTS TO THE CLAIMS

Claims 1-48. (Canceled)

49. (Currently amended) A method of forming a photodiode for a pixel sensor cell, said method comprising:

forming a gate of a transistor over a substrate;

forming a first doped layer of a first conductivity type in said substrate and adjacent said gate, said first doped layer being formed to a thickness of about 100 Angstroms to about 500 Angstroms to facilitate blue light absorption; and

forming a doped region of a second conductivity type in said substrate and below said first doped layer.

50. (Original) The method of claim 49, wherein said first doped layer has a dopant concentration within the range of from about 5×10^{17} atoms per cm^3 to about 1×10^{19} atoms per cm^3.

51. (Original) The method of claim 50, wherein said first doped layer has a dopant concentration of about 1×10^{18} atoms per cm^3 to about 5×10^{18} atoms per cm^3.

52. (Original) The method of claim 49, wherein said first doped layer is formed to a thickness of about 100 Angstroms to about 300 Angstroms.

53. (Original) The method of claim 52, wherein said first doped layer is formed to a thickness of about 250 Angstroms.

54. (Original) The method of claim 49, wherein said act of forming said first doped layer further comprises forming an in-situ doped layer of said first conductivity type over a first area of said substrate.

55. (Original) The method of claim 54, wherein said act of forming said first doped layer further comprises diffusing ions from said in-situ doped layer into said first area of said substrate.

56. (Original) The method of claim 55, wherein said act of diffusing said ions from said in-situ doped layer further comprises annealing said in-situ doped layer at a temperature of about 900ºC to about 1100ºC.

57. (Original) The method of claim 56, wherein said act of annealing said in-situ doped layer is conducted for about 10 seconds to about 20 seconds.

58. (Original) The method of claim 56, wherein said act of annealing said in-situ doped layer is conducted at a temperature of about 950ºC to about 1000ºC for about 10 seconds to about 20 seconds.

59. (Original) The method of claim 49, wherein said act of forming said first doped layer further comprises forming an undoped oxide layer over a second area of said substrate.

60. (Original) The method of claim 59, wherein said act of forming said first doped layer further comprises implanting ions of said first conductivity type in said undoped oxide layer to form a doped oxide layer.

61. (Original) The method of claim 60, wherein said act of forming said first doped layer further comprises diffusing ions from said doped oxide layer into said second area of said substrate to form said first doped layer.

62. (Original) The method of claim 61, wherein said act of diffusing said ions from said doped oxide layer further comprises annealing said doped oxide layer at a temperature of about 900ºC to about 1100ºC.

63. (Original) The method of claim 62, wherein said act of annealing said doped oxide layer is conducted for about 10 seconds to about 20 seconds.

64. (Original) The method of claim 62, wherein said act of annealing said doped oxide layer is conducted at a temperature of about 950ºC to about 1000ºC and for about 10 seconds to about 20 seconds.

65. (Original) The method of claim 49, wherein said act of forming said first doped layer further comprises conducting a gas source plasma doping in a third area of said substrate.

66. (Original) The method of claim 65, wherein said gas source plasma doping is conducted in a B_2H_6 plasma diluted by another gas.

67. (Original) The method of claim 66, wherein said another gas is helium.

68. (Original) The method of claim 65, wherein said gas source plasma doping is conducted in a BF_2 plasma diluted by another gas.

69. (Original) The method of claim 68, wherein said another gas is helium.

70. (Original) The method of claim 65, wherein said gas source plasma doping is conducted in an electron cyclotron (ECR) for about 100 seconds.

71. (Original) The method of claim 65, wherein said gas source plasma doping is conducted in a radio frequency (RF) plasma source for about 100 seconds.

72. (Original) The method of claim 49, wherein said doped region has a dopant concentration within the range of from about 3×10^{15} to about 1×10^{18} atoms per cm^3.

73. (Original) The method of claim 49, wherein said first conductivity type is p-type and said second conductivity type is n-type.

74. (Original) The method of claim 49, wherein said photodiode is a p-n-p photodiode.

75. (Original) The method of claim 49, wherein said pixel sensor cell is one of a 3T, 4T, 5T, 6T or 7T sensor cell.

76. (Original) The method of claim 49, wherein said pixel sensor cell is part of a CMOS imager.

77. (Original) The method of claim 49, wherein said pixel sensor cell is part of a CCD imager.

Claims 78-131. (Canceled)

132. (New) The method of claim 49, wherein said first doped layer provides maximum blue light absorption.